

=> FILE REG

FILE 'REGISTRY' ENTERED AT 11:15:04 ON 02 FEB 2010
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=> D HIS

FILE 'HCAPLUS' ENTERED AT 10:56:05 ON 02 FEB 2010

L1 8548 S MORISHITA ?/AU
L2 28162 S NOMURA ?/AU
L3 13783 S TSUDA ?/AU
L4 13 S L1 AND L2 AND L3
SEL L4 6 RN

FILE 'REGISTRY' ENTERED AT 10:57:25 ON 02 FEB 2010

L5 36 S E1-E36
E (C58 H42 B2 N2 O4 . C48 H37 BR2 IR N4 O2 . C18 H24 BR2 O2
L6 1 S E3
E 104692/RID

FILE 'LREGISTRY' ENTERED AT 11:00:13 ON 02 FEB 2010

L7 STR
L8 STR

FILE 'REGISTRY' ENTERED AT 11:05:33 ON 02 FEB 2010

L9 SCR 2043
L10 1 S L7 AND L8 AND L9

FILE 'LREGISTRY' ENTERED AT 11:06:30 ON 02 FEB 2010

L11 STR

FILE 'REGISTRY' ENTERED AT 11:12:56 ON 02 FEB 2010

L12 1 S L11 AND L8 AND L9
L13 6 S L11 AND L8 AND L9 FUL
SAV L13 TRU019/A

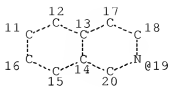
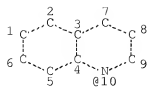
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L14 1 S L13

FILE 'REGISTRY' ENTERED AT 11:15:04 ON 02 FEB 2010

=> D L13 QUE STAT

L8 STR



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VAR G1=10/19

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

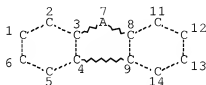
RSPEC I

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L9 SCR 2043

L11 STR



M 17

NODE ATTRIBUTES:

NSPEC IS R AT 17

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L13 6 SEA FILE=REGISTRY SSS FUL L11 AND L8 AND L9

100.0% PROCESSED 4121 ITERATIONS

6 ANSWERS

SEARCH TIME: 00.00.01

=> FILE ZCA

FILE 'ZCA' ENTERED AT 11:15:14 ON 02 FEB 2010
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> D L14 1 ALL HITSTR

L14 ANSWER 1 OF 1 ZCA COPYRIGHT 2010 ACS on STN
AN 142:103420 ZCA Full-text
ED Entered STN: 27 Jan 2005
TI High-molecular copolymer containing metal coordination compound and
organic electroluminescence element using the same
IN Morishita, Yoshii; Nomura, Satoyuki; Tsuda, Yoshihiro
PA Hitachi Chemical Co., Ltd., Japan
SO PCT Int. Appl., 167 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C08G085-00
ICS C08G061-12; C09K011-06; H05B033-14
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 38, 78

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2004113421	A1	20041229	WO 2004-JP8950	20040618
	JP 2005029782	A	20050203	JP 2004-180126	20040617
	JP 4380430	B2	20091209		
	JP 2005029783	A	20050203	JP 2004-180137	20040617
	JP 4380431	B2	20091209		
	JP 2005029784	A	20050203	JP 2004-180147	20040617
	JP 4380432	B2	20091209		
	JP 2005029785	A	20050203	JP 2004-180158	20040617
	JP 4380433	B2	20091209		
	CN 1805996	A	20060719	CN 2004-80016774	20040618
	KR 2006021894	A	20060308	KR 2005-724010	20051214
	US 20060287498	A1	20061221	US 2005-561019	20051216
PRAI	JP 2003-173799	A	20030618		
	JP 2003-173874	A	20030618		
	JP 2003-173933	A	20030618		
	JP 2003-173986	A	20030618		
	WO 2004-JP8950	W	20040618		

AB The present invention relates to a high-mol. copolymer contg. a metal coordination compd. capable of blue phosphorescence of high color purity. There is further provided a high-mol. copolymer contg. a metal coordination compd. of prolonged driving life capable of emitting lights of various colors ranging from blue to red. There is provided a high-mol. copolymer

contg. a metal coordination compd. comprising any of metal coordination compd. monomer units I-VI and ≥ 1 monomer unit selected from a (un)substituted quinoline monomer unit, a (un)substituted arylene, and/or heteroarylene monomer unit, a (un)substituted branched structure monomer unit, and a (un)substituted conjugated monomer unit, wherein B = N(X7), O, S, C(:O), SO₂, or CR₂; M = Ir, Rh, Ru, Os, Pd, or Pt; A = a nitrogen-contg. ring compd. bonded to M; X1-7 = independently R1, OR₂, SR₃, OCOR₄, COOR₅, SiR₆R₇R₈, or NR₉R₁₀; R1-10 = H, halogen atom, cyano, nitro, C1-22 linear or branched (halogenated)alkyl, or (haloagenated) C6-30 aryl, C2-30 heteroaryl, or C7-30 aralkyl group. Thus, 1.9 g magnesium and 30 mmol 3-bromo-9-methylcarbazole were stirred, mixed with 300 mmol trimethylborate, 1,2-ethanediol was added therein, 10 mmol of the resulting carbazole-deriv. borate and 10 mmol 2-bromopyridine were reacted to give 3-(2'-pyridyl)-9-methylcarbazole, 7.58 mmol of which was reacted with 1.7 mmol iridium chloride trihydrate to give di- μ -chloro-tetrakis[3-(2'-pyridyl)-9-methylcarbazole-N1', C2]diiridium, 0.7 mmol of the resulting iridium complex was reacted with 2.10 mmol an acetylacetone deriv. to give bis[3-(2'-pyridyl)-9-methylcarbazole-N1', C2](dibromobenzylacetylacetonate)iridium, 1 mmol of which was mixed with dibromodiphenyloxadiazole 9, 2,5-dicyclohexyloxy-1,4-dibromobenzene 5, quinoline-deriv. diborate (prepn. given) 5, and palladium tetratriphenylphosphine 0.2 mmol for 48 h to give a copolymer with electroluminescence at 450 nm when fabricated into an electroluminescent element.

ST high mol copolymer metal coordination compd org electroluminescence; bromomethylcarbazole bromopyridine iridium chloride reactant pyridylmethylcarbazole intermediate; bispyridylmethylcarbazole dibromobenzylacetylacetonate iridium dibromodiphenyloxadiazole dicyclohexyloxydibromobenzene quinoline deriv copolymer

IT Coordination compounds

(polymers; prepn. of high-mol. copolymers contg. metal coordination compds. for org. electroluminescent elements)

IT Electroluminescent devices

Phosphorescent substances

(prepn. of high-mol. copolymers contg. metal coordination compds. for org. electroluminescent elements)

IT	809287-10-3P	809287-12-5P	809287-17-0P	809287-19-2P
	809287-24-9P	809287-26-1P	810660-43-6P	810660-46-9P
	810660-49-2P			

(intermediate in monomer prepn.; prepn. of high-mol. copolymers contg. metal coordination compds. for org. electroluminescent elements)

IT	816420-48-1P	816420-50-5P	816420-53-8P	816420-55-0P
	816420-67-4P			

(monomer; prepn. of high-mol. copolymers contg. metal coordination compds. for org. electroluminescent elements)

IT	816420-58-3P	816420-59-4P	816420-60-7P	
	816420-63-0P	816420-64-1P	816420-66-3P	
	816420-68-5P	816420-69-6P	816420-70-9P	816420-73-2P
	816420-76-5P	816450-74-5P		

(prepn. of high-mol. copolymers contg. metal coordination compds. for org. electroluminescent elements)

IT 107-21-1, 1,2-Ethanediol, reactions 109-04-6, 2-Bromopyridine
121-43-7, Trimethylborate 3096-56-8, 2-Bromo-9-fluorenone
13569-57-8, Iridium trichloride trihydrate 91828-08-9,
3-Bromo-9-methylcarbazole 128424-36-2,
2,5-Dibromo-1,4-dihexyloxybenzene 784163-30-0 809287-14-7
816420-47-0

(reactant in monomer prepn.; prepn. of high-mol. copolymers contg.
metal coordination compds. for org. electroluminescent elements)

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

UPOS.G Date last citing reference entered STN: 16 Feb 2009

OS.G CAPLUS 2007:197072

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

- (1) Canon Inc; WO 0244189 A1 2002 ZCA
- (2) Canon Inc; EP 1238981 A2 2002 ZCA
- (3) Canon Inc; EP 1348711 A1 2002 ZCA
- (4) Canon Inc; CN 1374315 A 2002 ZCA
- (5) Canon Inc; AU 200222566 A5 2002
- (6) Canon Inc; JP 2002332291 A 2002 ZCA
- (7) Canon Inc; US 20030068526 A1 2002
- (8) Canon Inc; US 20030068535 A1 2002
- (9) Canon Inc; WO 0322908 A1 2003
- (10) Canon Inc; US 20030186080 A1 2003 ZCA
- (11) Canon Inc; JP 200373480 A 2003
- (12) Fuji Photo Film Co Ltd; JP 2002317033 A 2002 ZCA
- (13) Lightponik Technology Inc; US 20030129448 A1 2003

IT 816420-58-3P 816420-59-4P 816420-60-7P

816420-63-0P 816420-64-1P 816420-66-3P

(prepn. of high-mol. copolymers contg. metal coordination compds.
for org. electroluminescent elements)

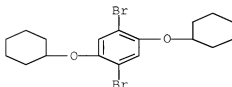
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yl-κC]-, polymer with 2,5-bis(4-bromophenyl)-1,3,4-oxadiazole,
2,2'-bis[4-(1,3,2-dioxaborolan-2-yl)phenyl]-3,3',4,4'-tetraphenyl-6,6'-
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INDEX NAME)

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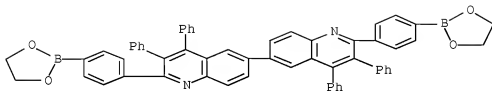
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CM 2

CRN 816420-55-0

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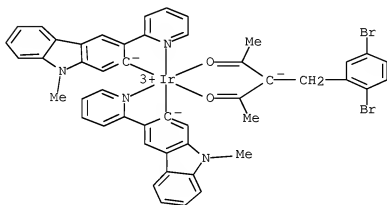


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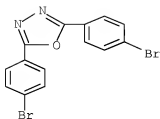
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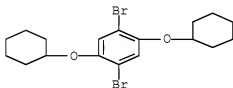
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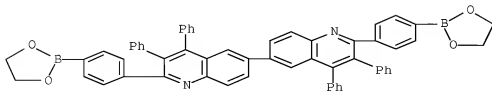
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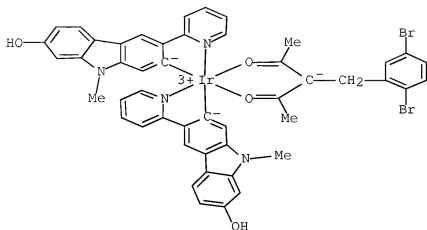


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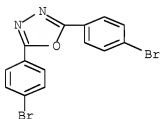
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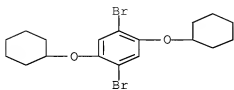
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CN Iridium, [3-[(2,5-dibromophenyl)methyl]-2,4-pentanedionato- κ O, κ O']bis[9-oxo-2-(2-pyridinyl- κ N)-9H-fluoren-3-yl- κ C]-, polymer with 2,5-bis(4-bromophenyl)-1,3,4-oxadiazole, 2,2'-bis[4-(1,3,2-dioxaborolan-2-yl)phenyl]-3,3',4,4'-tetraphenyl-6,6'-biquinoline and 1,4-dibromo-2,5-bis(cyclohexyloxy)benzene (9CI) (CA INDEX NAME)

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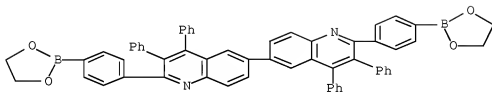
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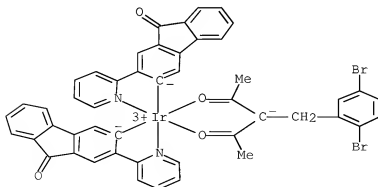


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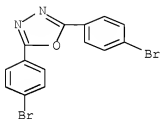
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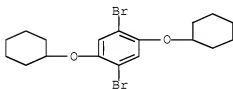
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CN Iridium, [3-[(2,5-dibromophenyl)methyl]-2,4-pentanedionato- κ O, κ O']bis[9-methyl-3-(2-pyridinyl- κ N)-9H-carbazol-2-yl- κ C]-, polymer with 2,5-bis(4-bromophenyl)-1,3,4-oxadiazole, 2,2'-bis[4-(1,3,2-dioxaborolan-2-yl)phenyl]-3,3',4,4'-tetraphenyl-6,6'-biquinoline, 4-bromo-N,N-bis(4-bromophenyl)benzenamine and 1,4-dibromo-2,5-bis(cyclohexyloxy)benzene (9CI) (CA INDEX NAME)

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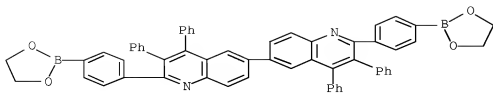
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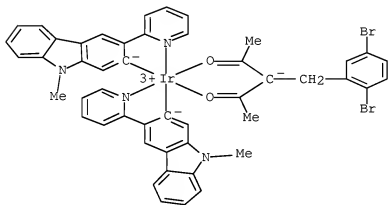


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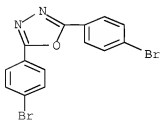
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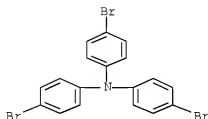
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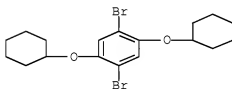
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CN Iridium, [3-[(2,5-dibromophenyl)methyl]-2,4-pentanedionato- κ O, κ O']bis[7-hydroxy-9-methyl-3-(2-pyridinyl- κ N)-9H-carbazol-2-yl- κ C]-, polymer with 2,5-bis(4-bromophenyl)-1,3,4-oxadiazole, 2,2'-bis[4-(1,3,2-dioxaborolan-2-yl)phenyl]-3,3',4,4'-tetraphenyl-6,6'-biquinoline, 1,4-dibromo-2,5-bis(cyclohexyloxy)benzene and 1,3,5-tribromobenzene (9CI) (CA INDEX NAME)

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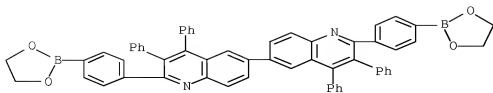
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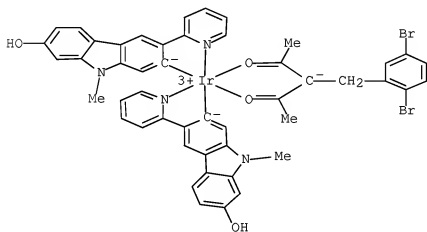


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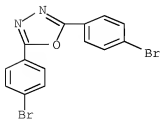
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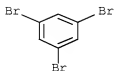
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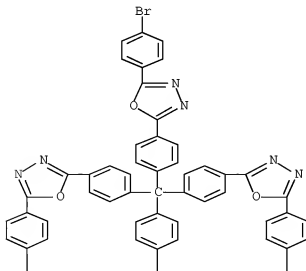
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CN Iridium, [3-[(2,5-dibromophenyl)methyl]-2,4-pentanedionato- $\kappa\text{O}, \kappa\text{O}'$]bis[9-oxo-2-(2-pyridinyl- κN)-9H-fluoren-3-yl- κC]-, polymer with 2,5-bis(4-bromophenyl)-1,3,4-oxadiazole, 2,2'-bis[4-(1,3,2-dioxaborolan-2-yl)phenyl]-3,3',4,4'-tetraphenyl-6,6'-biquinoline, 1,4-dibromo-2,5-bis(cyclohexyloxy)benzene and 2,2',2'',2'''-(methanetetrayltetra-4,1-phenylene)tetrakis[5-(4-bromophenyl)-1,3,4-oxadiazole] (9CI) (CA INDEX NAME)

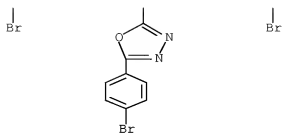
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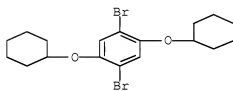
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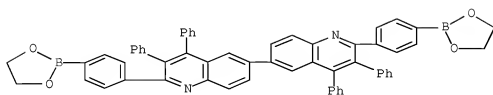
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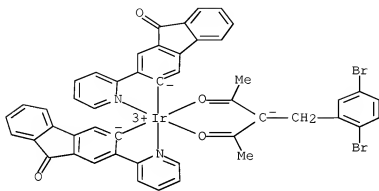
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CM 4

CRN 816420-53-8
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 CCI CCS



CM 5

CRN 19542-05-3
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